

ABSTRACT

A stage assembly (10) for moving and positioning a device (26) is provided herein. The stage assembly (10) includes a stage base (12), a device table (48), a stage mover assembly (16), a measurement system (20), and a control system (22). The stage mover assembly (16) moves the device table (48) along an X axis, along a Y axis, and about a Z axis relative to the stage base (12). The measurement system (20) includes a first X mirror (25A) for monitoring the position of the device table (48) in an alignment position (31A) and a second X mirror (25B) for monitoring the position of the device table (48) in an operational position (31B). In one embodiment, the stage assembly (10) includes a first fiducial mark (76) and a second fiducial mark (78) that are secured to the device table (48) to determine the relative position of the X mirrors (25A)(25B). Alternately, in another embodiment, the stage assembly additionally includes a third fiducial mark (80) secured to the device table (48) for determining the relative positions of the X mirrors (25A)(25B). In both embodiments, the control system (22) utilizes the measured position of the fiducial marks relative to the first X mirror (25A) and the second X mirror (25B) to determine the position of the first X mirror (25A) relative to the second X mirror (25B). These features allow for more accurate positioning of the device (26) by the stage assembly (10) and better performance of the stage assembly (10).

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